



**WORK PLAN FOR CLEANUP OF  
ASBESTOS CONTAINING MATERIALS (ACM)**

**NAVAL STATION, TREASURE ISLAND  
HUNTERS POINT ANNEX  
SAN FRANCISCO, CALIFORNIA**

**DEPARTMENT OF THE NAVY  
WESTERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
SAN BRUNO, CALIFORNIA 94066-0727**

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A Report Prepared for

United States Navy  
Western Division  
Naval Facility Engineering Command  
P.O. Box 727  
San Bruno, California 94066

WORK PLAN FOR CLEANUP OF  
ASBESTOS CONTAINING MATERIALS (ACM)  
NAVAL STATION, TREASURE ISLAND  
HUNTERS POINT ANNEX  
SAN FRANCISCO, CALIFORNIA

by

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## SECTION 1

### GENERAL INFORMATION

This work plan contains a description of the regulations, work areas, precleanup preparation, personal protective measures, removal procedures, verification procedures, cost estimate, schedule, and report documentation required for the cleanup of asbestos containing material (ACM) at Naval Station, Treasure Island, Hunters Point Annex, San Francisco, California.

#### 1.1 Purpose

The purpose of this project is to remove all identified surface asbestos from the designated areas in a manner which conforms to the intent of all health and safety laws and regulations; recognizes and takes all reasonable precautions against the documented biological dangers of airborne asbestos fibers; causes no contamination to other buildings or areas of the site; endangers none of the workers performing these tasks; creates no short- or long-term threat to the health of other persons in or around the premises now or in the future; and documents cleanup to background levels.

#### 1.2 Scope of Work

The scope of work includes furnishing all labor, materials, services, insurance and equipment necessary to carry out asbestos abatement and disposal activities in accordance with U.S. EPA, California Department of Health Services (DHS), and Occupational Safety and Health Administration (OSHA) regulations, and any other

applicable Navy, Federal, State or local regulations.

Work includes:

- A. Removal of asbestos containing material from designated sites at the Hunters Point Annex.
- B. Packaging, labeling, and transporting all removed ACM to a licensed hazardous waste landfill.
- C. Backfilling abatement areas with clean, non-asbestos containing material.
- D. Providing appropriate personal protective equipment and monitoring site activities in accordance with OSHA regulations; and
- E. Verifying that removal levels have been achieved and documenting all activities that transpired.

## SECTION 2

### APPLICABLE REGULATIONS AND NOTIFICATIONS

#### 2.1 Regulations

All asbestos removal work shall comply with the requirements of U.S. EPA regulations, National Emission Standards for Asbestos, and the OSHA regulations on asbestos, Section 1910.1001 and any other applicable Federal, State and local government regulations. Transportation and disposal of ACM wastes shall be completed in compliance with California DHS regulations.

Under California law, friable material containing more than one percent asbestos on a weight basis is defined as a hazardous waste and must be packaged, labeled, and transported as a hazardous waste. Disposal of friable asbestos material, under Section 25143.7 of the California Health and Safety Code, can be to any Class I or II landfill that is authorized by the Regional Water Quality Control Board provided that the material is handled and disposed of in accordance with the DHS regulations.

Non-friable asbestos material is considered to be a solid waste and not subject to hazardous waste handling, transport or disposal regulations.

#### 2.2 Notifications

Written notice of intent to conduct removal or renovation shall

be provided to the U.S. EPA Regional Administrator. Point of contact is:

EPA  
Air Management Division  
Janet Crawford  
215 Fremont Street  
San Francisco, California 94105  
(415) 974-7633

Attn: A-3-3

Such notice shall be postmarked or delivered to the Administrator at least 20 days prior to commencement of removal. Such notice shall include the following information:

- a. Name of owner or operator.
- b. Address of owner or operator.
- c. Description of the work areas and the approximate amount of ACM present.
- d. Address or location of the installation.
- e. Scheduled starting and completion dates of removal.
- f. Nature of planned removal and method(s) to be employed.
- g. Procedures to be employed.



h. The name and address or location of the waste disposal site where the friable asbestos waste will be deposited.

- B. The regional headquarters of U.S. Department of Labor's OSHA, shall be notified prior to commencing work. OSHA is supplied with the same information as listed above for the EPA. Point of contact is:

U. S. Department of Labor  
OSHA  
71 Stevenson Street, Fourth Floor  
San Francisco, California 94102

(415) 995-5672

- C. Prior to commencing work, the State Contractors Licensing Board shall be notified and the contractor certified to perform asbestos removal and abatement work. Contact the Board at (916) 366-5153.

- D. The local air pollution control district (Bay Area Air Quality Management District) must be notified prior to commencement of this work in accordance with Regulation II, Rule 2 (BAAQMD). Point of contact is:

Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, California 94109

Dave Omoto 771-6000

- E. The asbestos contractor must also be registered with CAL-

OSHA and notify CAL-OSHA in the same time frame and with the same information as EPA. Point of contact is:

CAL-OSHA  
Carcinogen Unit  
525 Golden Gate Avenue - Third Floor  
San Francisco, California 94102

(415) 557-2037

## SECTION 3

### DESCRIPTION OF ACM WORK AREAS

ACM surface contamination has been documented at several Hunters Point Annex sites. The contamination is found in primarily the western and southern extent of the base. In this section the distinction between known hazardous waste (RI/FS) sites and the general area is presented as a basis for distinguishing the level of cleanup in the different work areas within Hunters Point Annex. Additionally, the ACM work areas are identified and known information about each site is summarized.

#### 3.1 Remedial Investigation/Feasibility Study (RI/FS) Assumptions

Several areas at Hunters Point Annex require Remedial Investigation/Feasibility Studies (RI/FS). Asbestos containing material (ACM) has been identified in both RI/FS and non-RI/FS areas.

Surface ACM shall be removed only. Contaminated soils will not be removed and will remain in place.

Soils that are contaminated with asbestos (i.e. asbestos concentration is greater than one percent) will be capped with clean fill material as specified in Section 8. This capping of the area will provide temporary containment only. If long-term abatement is necessary after surface ACM removal and containment, it will be addressed as part of the RI/FS and final remedial actions.

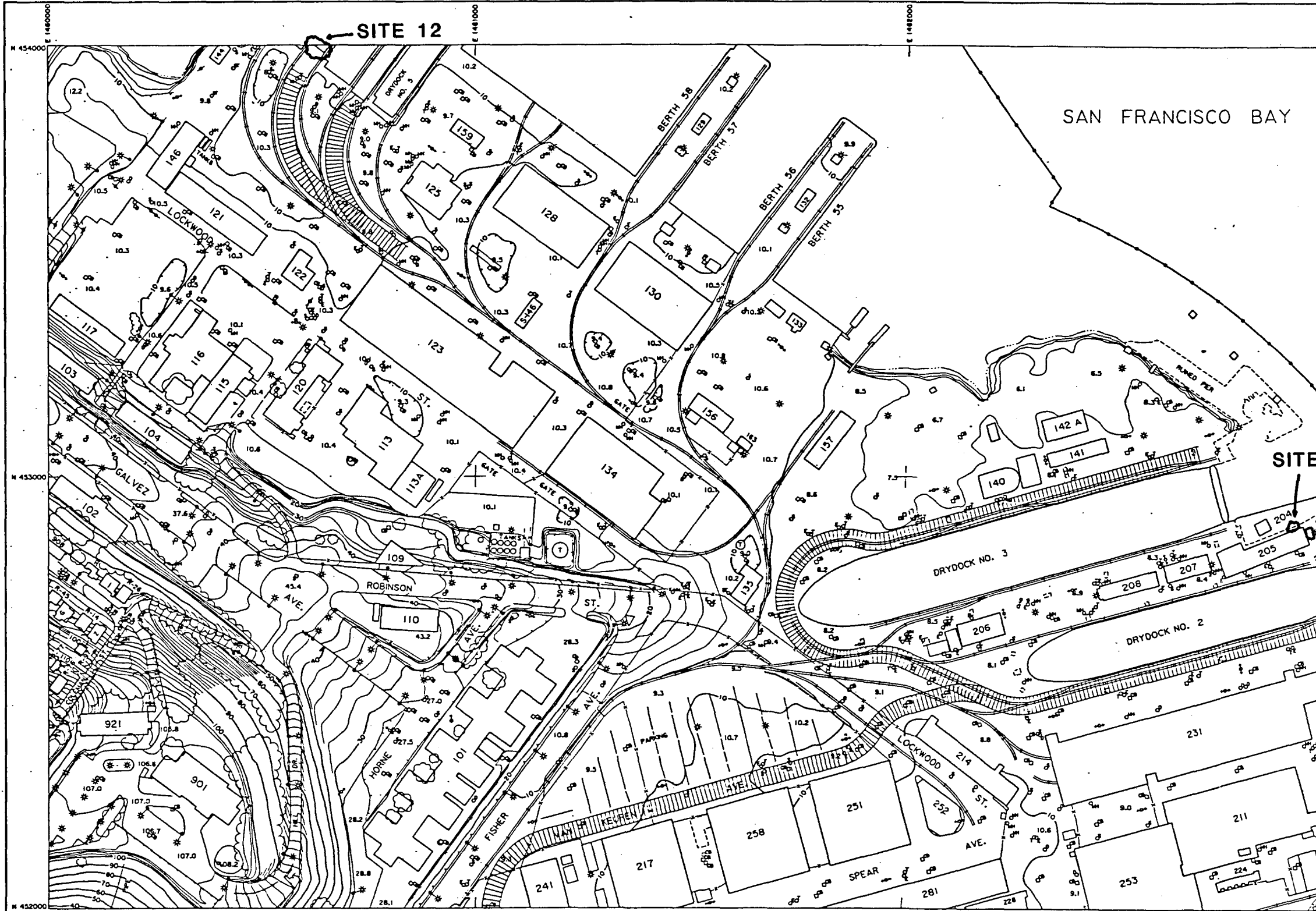
### 3.2 ACM Site Locations

Figure 3-1, located in the pocket behind the appendixes, indicates the general location of ACM sites at Hunters Point Annex. In Figures 3-2 through 3-6, the specific location of each site is noted and the areal extent of the contamination is pictorially indicated. Where appropriate, the known extent of the ACM contamination has been previously staked in the field.

In Table 3-1 known information and calculated quantities of ACM material and backfill/cap material is summarized for each ACM work area. If the work area is within a RI/FS site, it is noted with a "yes" in the appropriate column space. Additionally, the type of ACM is noted, as well as the specified cleanup method. Further expansion of the cleanup methods are provided in the Section 3.3. Additional and specific requirements governing the cleanup procedures, work area preparation, personal protection, and removal procedures are presented in the following Sections 4, 5, and 6.

Areal estimates and depth of ACM contamination were estimated and summarized in Table 3-1. Based on these estimates, the removal and cap volumes were calculated as shown.

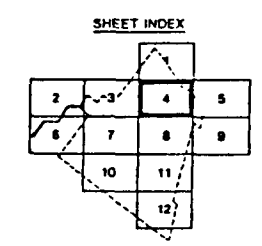
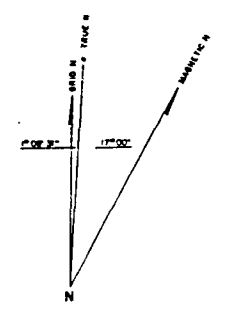
In the last column of Table 3-1, the decontamination facilities requirements are listed. Two areas will require the mobilization of a decontamination trailer: the power plant area (Site 10) and an area in the bay fill (Area E). Both these sites have potentially large quantities of friable asbestos that could be tracked from the work area to the general Hunters Point Annex area and beyond.



REVISIONS		
SYM	DESCRIPTION	DATE   APPROVED

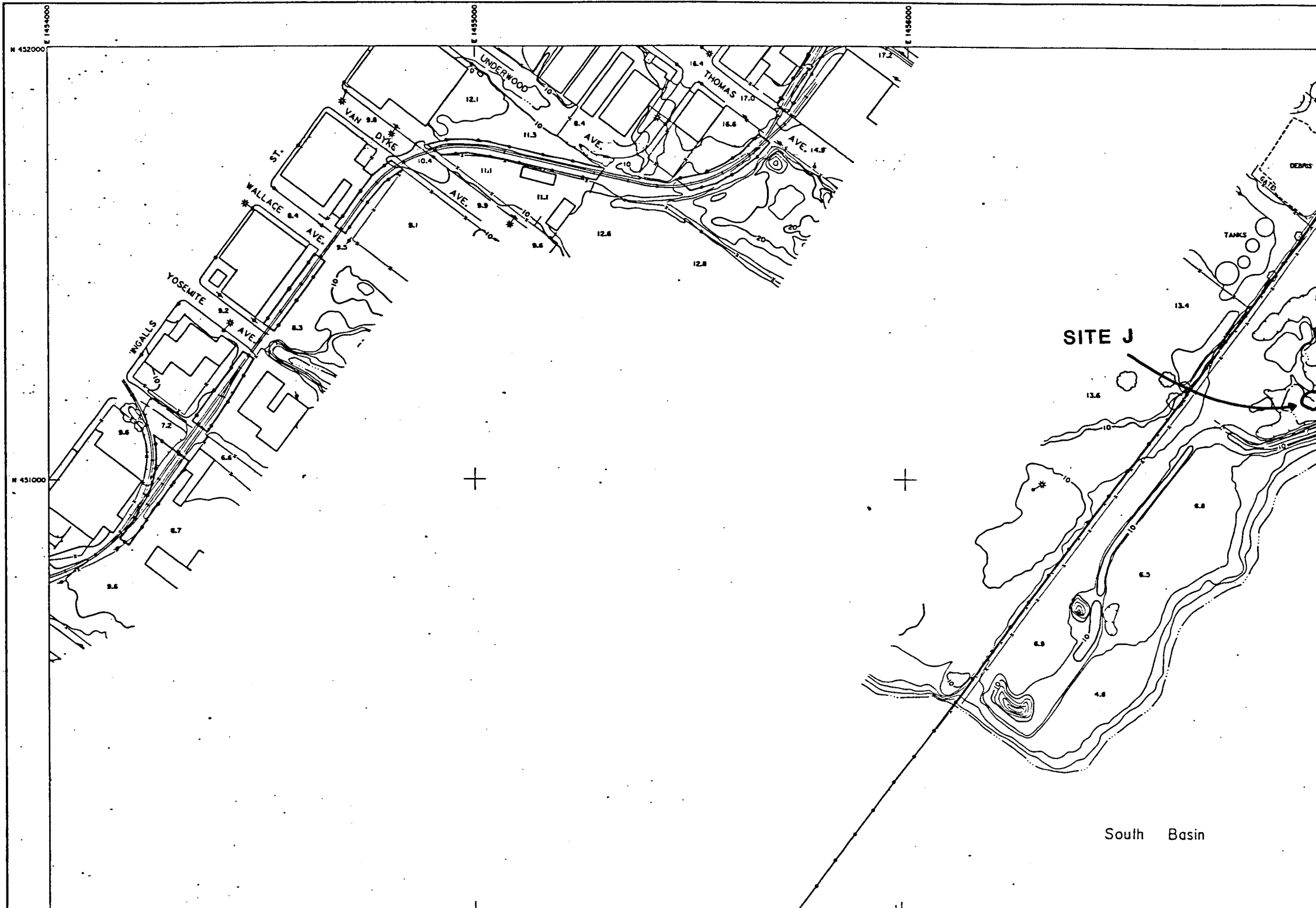
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- MAJOR BUILDING, PER
  - MINOR BUILDING
  - TANK
  - CURB
  - EDGE OF TRAVELLED WAY
  - DIRT ROAD
  - CONCRETE
  - RAILROAD
  - CRANE TRACK
  - FENCE
  - RETAINING WALL
  - GUARDRAIL
  - STATION BOUNDARY
  - INDEX CONTOUR WITH VALUE
  - INTERMEDIATE CONTOUR
  - SPOT ELEVATION
  - WATERLINE

- UTILITY LEGEND**
- MANHOLE
  - SANITARY MANHOLE
  - STORM DRAIN MANHOLE
  - ELECTRIC MANHOLE
  - TELEPHONE MANHOLE
  - STEAM MANHOLE
  - CATCH BASIN
  - FIRE HYDRANT
  - TELEPHONE POLE
  - UTILITY POLE
  - LIGHT POLE
  - ELECTROLIER
  - FLAGPOLE



**NOTE:**  
 This series of maps was prepared using photogrammetric techniques using aerial photography taken from the California Coastal Survey, dated January 29, 1966, and compared with existing map records.  
 Horizontal and vertical control was established by Tenth Inc. based on the California Coastal Survey, Zone 3.  
 Vertical datum is based on MLLS, and 1.0' datum elevation was determined from NAVFAC DWD, NO. 104757, 104758, 104759.

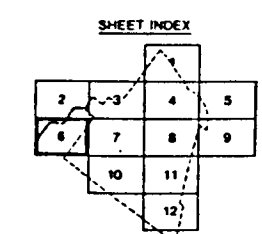
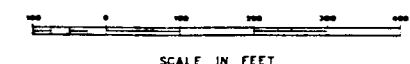
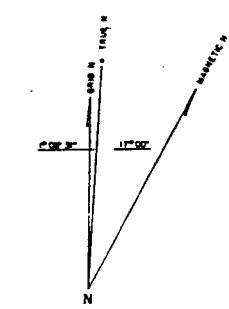
NAVAL STATION, TREASURE ISLAND, HUNTERS POINT ANNEX	
ASBESTOS CONTAINING MATERIALS DETAIL SITE PLAN	
FIGURE 3-2	<b>ERM-West</b>
DATE: JANUARY 1988	JOB: #400.39



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SYN	DESCRIPTION	DATE	APPROVED

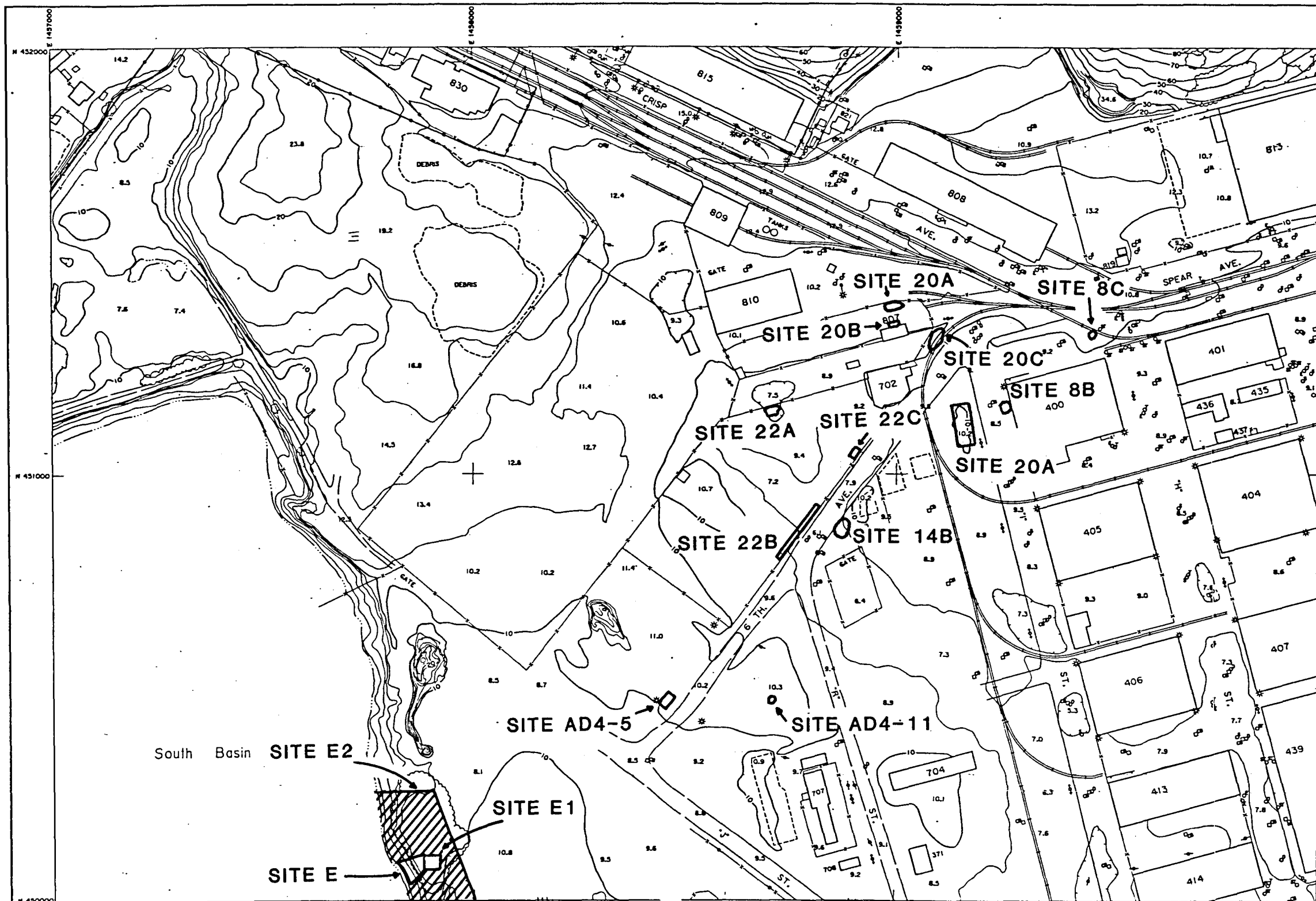
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  - MINOR BUILDING
  - TANK
  - CURB
  - EDGE OF TRAVELLED WAY
  - DIRT ROAD
  - CONCRETE
  - RAILROAD
  - CRANE TRACK
  - FENCE
  - RETAINING WALL
  - GUARDRAIL
  - STATION BOUNDARY
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  - INTERMEDIATE CONTOUR
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  - WATERLINE

- UTILITY LEGEND**
- MANHOLE
  - SANITARY MANHOLE
  - STORM DRAIN MANHOLE
  - ELECTRIC MANHOLE
  - TELEPHONE MANHOLE
  - STEAM MANHOLE
  - CATCH BASIN
  - FIRE HYDRANT
  - TELEPHONE POLE
  - UTILITY POLE
  - LIGHT POLE
  - ELECTROLIER
  - FLAGPOLE



**NOTE:**  
 This series of maps was prepared using photogrammetric computer aided mapping techniques from aerial photography dated January 25, 1988 and contains both current map accuracy standards.  
 Horizontal and vertical control was established by Tamsi, Inc. based on the California Coordinate System, Zone 3. Vertical datum is based on MSL & NAVD 83.  
 To convert map distances to S.F.T.M., use 1" = 100'. Station boundary was determined from NAVFAC (NAFAC) 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110.

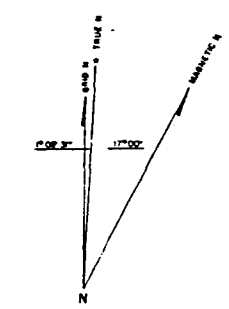
NAVAL STATION, TREASURE ISLAND, HUNTERS POINT ANNEX	
ASBESTOS CONTAINING MATERIALS DETAIL SITE PLAN	
FIGURE 3-3	ERM-West
DATE: JANUARY 1988	JOB: #400.39



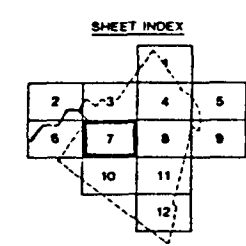
REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

- GENERAL LEGEND**
- MAJOR BUILDING, PER
  - MINOR BUILDING
  - TANK
  - CURB
  - EDGE OF TRAVELLED WAY
  - DIRT ROAD
  - CONCRETE
  - RAILROAD
  - CRANE TRACK
  - FENCE
  - RETAINING WALL
  - GUARDRAIL
  - STATION BOUNDARY
  - INDEX CONTOUR WITH VALUE
  - INTERMEDIATE CONTOUR
  - SPOT ELEVATION
  - WATERLINE

- UTILITY LEGEND**
- MANHOLE
  - SANITARY MANHOLE
  - STORM DRAIN MANHOLE
  - ELECTRIC MANHOLE
  - TELEPHONE MANHOLE
  - STEAM MANHOLE
  - CATCH BASIN
  - FIRE HYDRANT
  - TELEPHONE POLE
  - UTILITY POLE
  - LIGHT POLE
  - ELECTROLIER
  - FLAGPOLE

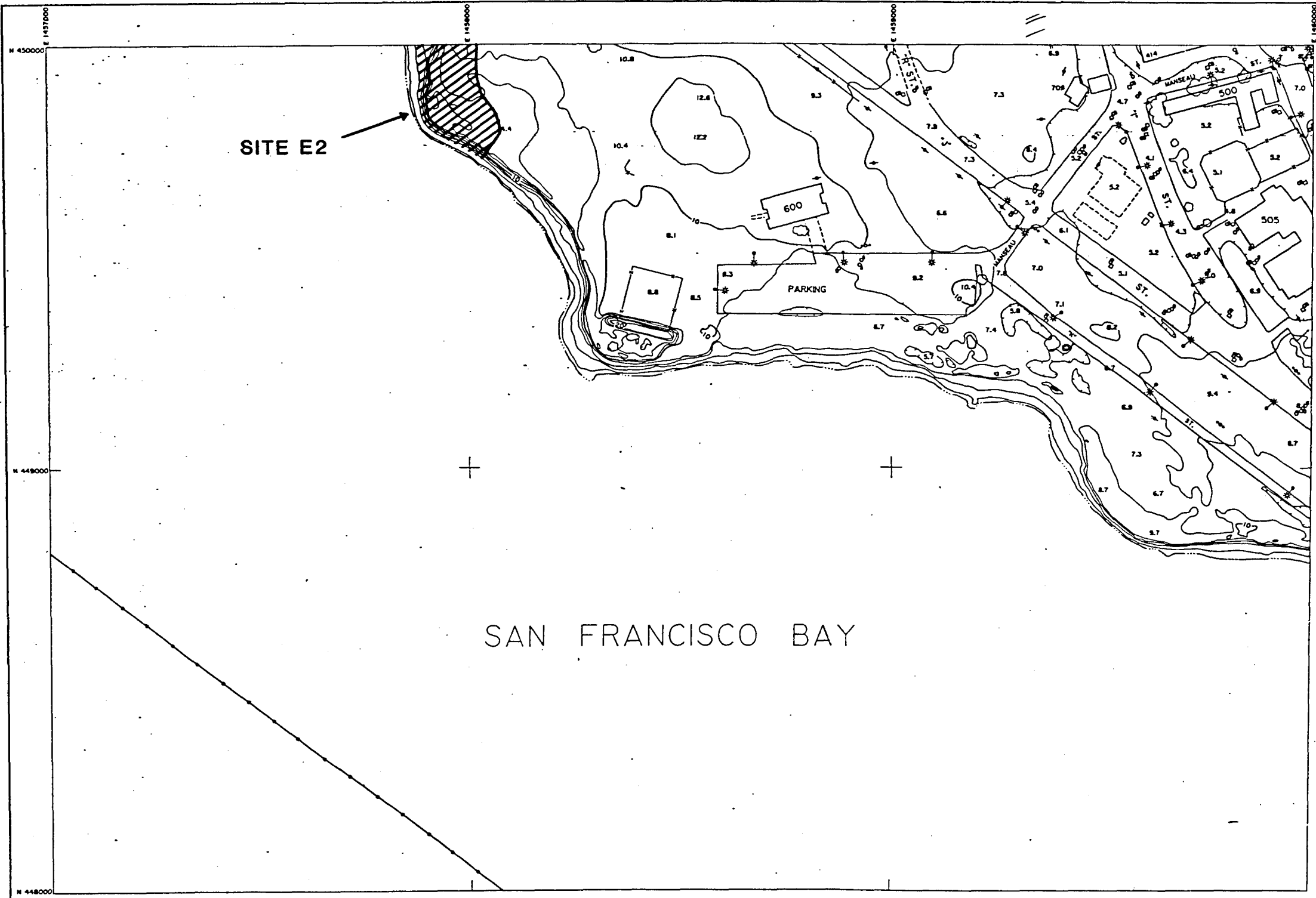


SCALE IN FEET



**NOTE:**  
 This version of map was prepared using photogrammetric  
 computer aided mapping techniques from aerial photography  
 dated January 1988, and compared with national map control  
 data.  
 Represented and vertical control was established by Tenth Inc.  
 based on the Geodetic Control System, Zone 8.  
 Vertical datum is based on MGS B.A.T.S.  
 To convert this elevation to S.L.L.S., add 3.1'.  
 Station boundary was determined from SURFAC DTM 88.1  
 10-46737, 10-46738, 10-46739.

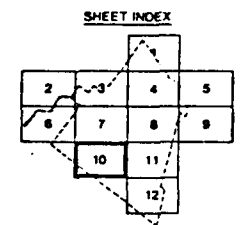
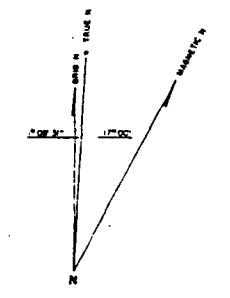
NAVAL STATION, TREASURE ISLAND, HUNTERS POINT ANNEX	
ASBESTOS CONTAINING MATERIALS DETAIL SITE PLAN	
FIGURE 3-4	ERM-West
DATE: JANUARY 1988	JOB: #400.39



REVISIONS		
SYM	DESCRIPTION	DATE   APPROVED

- GENERAL LEGEND**
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  - [Symbol] MINOR BUILDING
  - [Symbol] TANK
  - [Symbol] CURB
  - [Symbol] EDGE OF TRAVELLED WAY
  - [Symbol] DIRT ROAD
  - [Symbol] CONCRETE
  - [Symbol] RAILROAD
  - [Symbol] CRANE TRACK
  - [Symbol] FENCE
  - [Symbol] RETAINING WALL
  - [Symbol] GUARDRAIL
  - [Symbol] STATION BOUNDARY
  - [Symbol] INDEX CONTOUR WITH VALUE
  - [Symbol] INTERMEDIATE CONTOUR
  - [Symbol] SPOT ELEVATION
  - [Symbol] WATERLINE

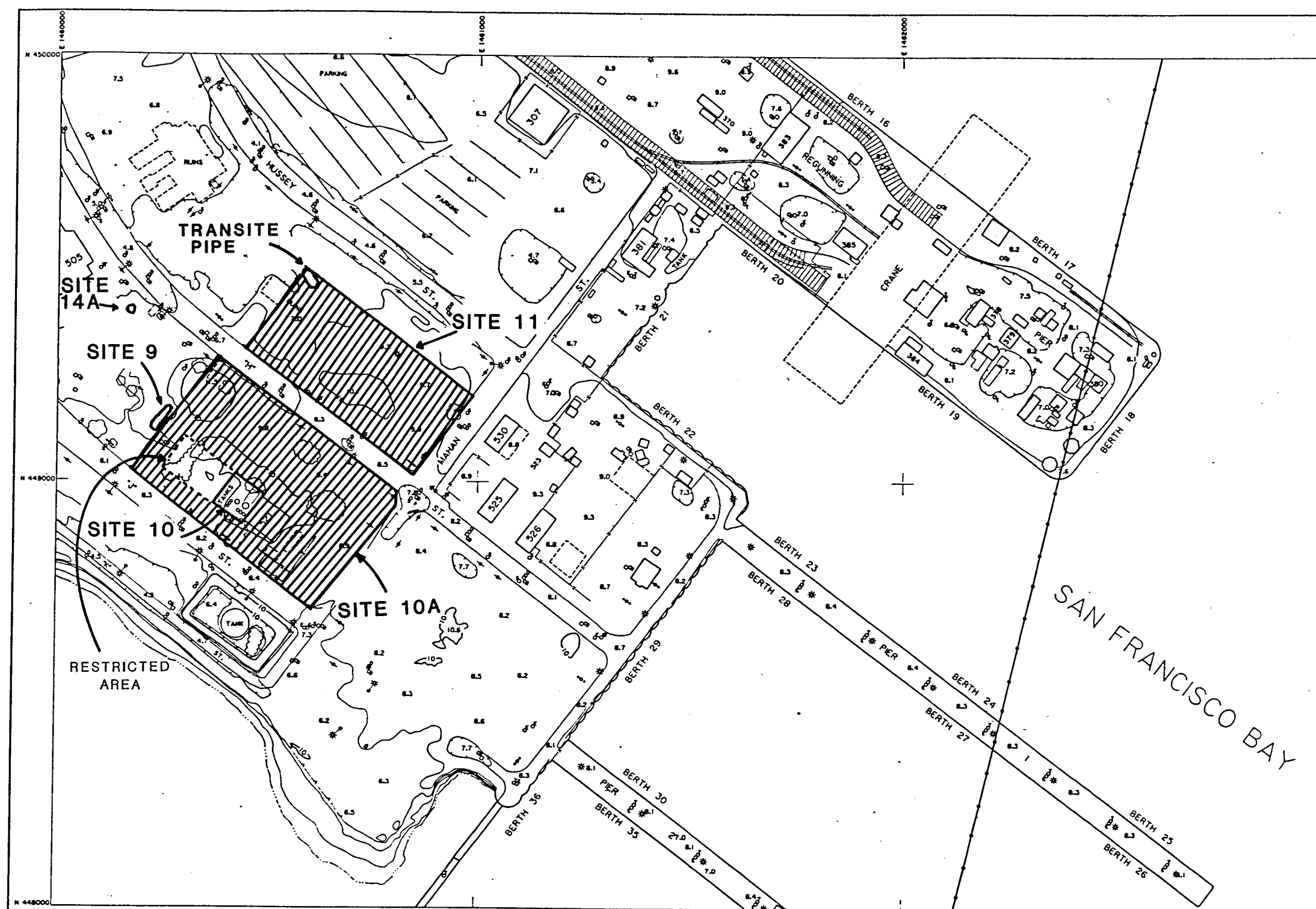
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  - [Symbol] SANITARY MANHOLE
  - [Symbol] STORM DRAIN MANHOLE
  - [Symbol] ELECTRIC MANHOLE
  - [Symbol] TELEPHONE MANHOLE
  - [Symbol] STEAM MANHOLE
  - [Symbol] CATCH BASIN
  - [Symbol] FIRE HYDRANT
  - [Symbol] TELEPHONE POLE
  - [Symbol] UTILITY POLE
  - [Symbol] LIGHT POLE
  - [Symbol] ELECTROLIER
  - [Symbol] FLAGPOLE



**NOTE:**  
 This series of maps was prepared using photogrammetric techniques using aerial photographs taken from aircraft. The map is based on the datum of the National Geodetic Survey, Zone 18 North, which is based on the 1983 datum. To convert map coordinates to U.S. NAD 83, use the following conversion factors: UTM Easting: +0.000000, UTM Northing: +0.000000. The map is based on the datum of the National Geodetic Survey, Zone 18 North, which is based on the 1983 datum. To convert map coordinates to U.S. NAD 83, use the following conversion factors: UTM Easting: +0.000000, UTM Northing: +0.000000.

NAVAL STATION, TREASURE ISLAND, HUNTERS POINT ANNEX	
ASBESTOS CONTAINING MATERIALS DETAIL SITE PLAN	
FIGURE 3-5	<b>ERM-West</b>
DATE: JANUARY 1988	JOB: #400.39

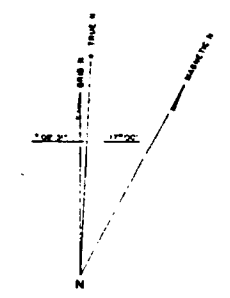




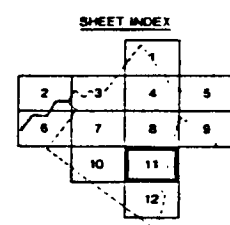
REVISIONS		
SYM	DESCRIPTION	DATE / APPROVED

- GENERAL LEGEND**
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  - [Thin solid line] MINOR BUILDING
  - [Circle with dot] TANK
  - [Double line] CURB
  - [Dashed line] EDGE OF TRAVELLED WAY
  - [Dotted line] DIRT ROAD
  - [Thick dashed line] CONCRETE
  - [Line with cross-ticks] RAILROAD
  - [Line with cross-ticks] CRANE TRACK
  - [Line with cross-ticks] FENCE
  - [Line with cross-ticks] RETAINING WALL
  - [Line with cross-ticks] GUARDRAIL
  - [Line with cross-ticks] STATION BOUNDARY
  - [Wavy line with value] INDEX CONTOUR WITH VALUE
  - [Wavy line] INTERMEDIATE CONTOUR
  - [Dot with value] SPOT ELEVATION
  - [Wavy line] WATERLINE

- UTILITY LEGEND**
- [Circle with cross] MANHOLE
  - [Circle with cross] SANITARY MANHOLE
  - [Circle with cross] STORM DRAIN MANHOLE
  - [Circle with cross] ELECTRIC MANHOLE
  - [Circle with cross] TELEPHONE MANHOLE
  - [Circle with cross] STEAM MANHOLE
  - [Circle with cross] CATCH BASIN
  - [Circle with cross] FIRE HYDRANT
  - [Circle with cross] TELEPHONE POLE
  - [Circle with cross] UTILITY POLE
  - [Circle with cross] LIGHT POLE
  - [Circle with cross] ELECTROLIER
  - [Circle with cross] FLAGPOLE



**NOTE:**  
 This series of maps was prepared using photogrammetric  
 stereoscopic aerial imagery collected from 1950 to 1955  
 and January 25, 1955 and includes all related map control  
 information.  
 Horizontal and vertical control was established by Tenth Inc.  
 based on the California Coordinate System, Zone 5.  
 Vertical control is based on 1929 M.S.L.  
 To identify map elements in W.L.L.R., and S.W.  
 Station numbers are shown from 100000 to 100000.  
 1048757, 1048758, 1048759.



NAVAL STATION, TREASURE ISLAND, HUNTERS POINT ANNEX	
ASBESTOS CONTAINING MATERIALS DETAIL SITE PLAN	
FIGURE 3-6	<b>ERM-West</b>
DATE: JANUARY 1988	JOB: #400.39

Table 3-1

## ACM Work Descriptions

Site Designation	RI/FS Site	Description of ACM	Cleanup Method	(1) Estimated Area ft X ft	Estimated Depth, ft	Estimated Removal cu yds	Estimated Volume Fill/Cap cu yds	Decontamination Facilities Requirements
AD4-5	Yes	Rope/Debris	Cap	5 x 5	Surface	---	1	None
AD4-11	No	Asbestos Insulated Boiler	Removal	4 ft dia. 8 ft. long		---	---	None
E	Yes	Pipe lagging	Removal & cap	10 X 30	2	23	25	Mandatory
E1	Yes	Soil Contamination	Cap	15 x 10	Surface	---	6	Suggested
E2	Yes	Vinyl Asbestos Tile	Removal	300 X 50	Surface	2	---	Suggested
J	Yes	Transite Pipe	Cap	3 X 5	Surface	---	0.5	None
8A	No	Soil Contamination	Removal & cap	40 X 80	0.17	20	22	None
8B & 8C	No	Pipe Lagging/Cloth	Removal	5 X 5 ea.	Surface	1	---	None
9	No	Pipe Lagging/Cloth	Removal & cap	5 X 15	2	6	7	Suggested
10	No	Power Plant Water Treatment - insulated piping and tankage	Removal	SEE NOTE 2 BELOW				Mandatory
10A	(4) Yes/No	Vinyl Asbestos Tile (VAT)	Removal	250 X 400	Surface	2	---	None
11	No	Trans pipe/VAT	Removal	250 X 400	Surface	1		None
12	No	Trans pipe/surface Contamination	Removal & cap	20 X 10	2	15	17	None
14A	No	Pipe Lag'ng in steam vault	Removal	5 X 8	Surface	1	---	None
14B	No	Pipe Lagging	Removal & cap	10 X 10	2	8	10	None
20A	Yes	Pipe Lagging/Debris	Removal	(3) 5 X 5	Surface	0.5	---	None
20B	Yes	Pipe Lagging/Debris	Removal	(3) 5 X 5	Surface	0.5	---	None
20C	No	Pipe Lagging	Removal	10 X 5	Surface	2	---	None
22A	Yes	Pipe Lagging/Debris	Removal	10 X 20	Surface	2	---	None
22B	Yes	Pipe Lagging/Debris	Removal	2 X 2	Surface	0.1	---	None
22C	Yes	Building Siding	Removal	2 pallets	---	---	---	None
205A	No	Pipe Lagging/Debris	Removal	5 x 5	Surface	0.5	---	None
205B	No	Pipe Lagging/Debris	Removal	5 x 5	Surface	0.5	---	None

## Notes:

- (1) See text for more detailed description of the specific method for cleanup.
- (2) See text for more detailed description of cleanup work and estimated piping and tank sizing.
- (3) Remove discrete piles and place in 55 gallon barrels. Seal and label barrels. - Material will be analyzed in future for other contaminants.
- (4) Portion of the site is restricted (i.e. RI/FS) - see Figure 3-6 for location of restricted area.

Suggested areas are also noted where decontamination facilities may be used but the friability and the potential for contamination outside of the area is not as great. In the majority of the areas the decontamination facilities are not required because of the minor quantity of the ACM at each specific site or the ACM is in a non-friable form.

### 3.3 ACM Work Description Notes

The asbestos work at Hunters Point Annex can be divided into three cleanup activities: (1) capping of surface soil contamination; (2) removal of surface material (both friable and nonfriable); and (3) the power plant water treatment system asbestos removal.

In the following sections each cleanup activity is discussed as it relates to each specific work area. Refer to Table 3-1 for specific location, cleanup method, estimated volumes, and other information related to each work area.

#### Capping of Surface Soil

A criteria established for the ACM work, is to temporarily cap ACM sites. Therefore areas specified for capping are shown in Table 3-1.

Site AD4-5. In this area a cloth (fabric), partially covered by sand, was detected and confirmed to contain asbestos. The area adjacent and surrounding the cloth fabric is scheduled to be capped with approved fill material and compacted as specified in Section 8. This site shall be coordinated with the EIC prior to remedial actions by the Contractor.

Site E1. Site E1 has been identified as having soil contaminated with asbestos in concentrations equal to or greater than one percent. This area is downwind of Site E, where friable pipe lagging is exposed to the wind and elements. This site should be capped after the friable ACM at Site E has been removed and backfilled with clean material.

Site J. This site has small fragments of transite pipe piled in a contained area. Capping shall be provided as specified in Section 8.

#### Removal of Material

The majority of the removal work involves removing small discrete piles of friable asbestos material or pieces of non-friable asbestos. Only one area, Site E, has any significant friable ACM.

Friable Asbestos Sites. Discrete piles of friable ACM are located in the following sites: AD4-11, E, 8B and 8C, 14A, 20A, 20B, 20C, 22A, 22B, 205A, and 205B.

Each of the above ACM sites, except AD4-11 and E, is underlain by asphalt or concrete, and it is the intent of this specification to cleanup just the ACM material and leave the asphalt and concrete intact.

Sites 20A and 20B are located within the scrap yard, a RI/FS site, and it is intended to have the two piles removed and placed in barrels. The material within the barrels shall be characterized per Title 22, California Administrative Code for hazardous waste characteristics in order to identify the appropriate mode of disposal. The barrels will be sealed, labeled, and disposed in accordance with Title 22 as applicable.

Site AD4-11 is an abandoned boiler that can be bagged or encapsulated, and disposed per these specifications.

The soil adjacent to the boiler does not contain asbestos greater than one percent. The soil directly underneath the boiler will be sampled and checked after the boiler is removed from the site.

Site E has a large surface exposure of friable pipe lagging. Since this site is within a RI/FS area, only the friable ACM shall be removed. Soil underlying the ACM shall be left intact. After accessible ACM has been removed from the area, the area shall be capped with approved material. During this process, the adjacent site E1 can be capped with the same backfill material.

Friable Asbestos Sites. In several sites outside of the RI/FS study areas, ACM material and/or contaminated soil will require encapsulation. These sites are: 8A, 9, 12, and 14B. Where the underlying material is soil or native fill, as in these sites, the material is usually integrated with the soil and it is assumed that a portion of the adjoining soil will also be encapsulated. Verification sampling after removal will confirm that the asbestos has been satisfactorily capped.

Non Friable ACM. Several sites, E2, 10A, 11, and 22C contain non friable ACM - primarily vinyl asbestos tile or asbestos gaskets remaining from discarded steam valves. These areas shall be cleared of surface pieces either by hand picking, vacuuming, racking, or other acceptable means. At site 22C, two pallets of asbestos building siding shall be removed and properly disposed by the Contractor.

### Power Plant Water Treatment Area - Site 10

On the north side of Building 521 is the former water softening treatment plant and steam condenser. This facility was used to soften the water used in the steam power plant. The area is abandoned and the power plant is no longer functional.

The work area at Site 10 is defined as the area immediately north of the power building and within the existing fence boundary of the water softening treatment area. An area north of the fenced water treatment area is restricted and not a part of the ACM work.

The ACM within the water treatment area comprises asbestos insulated piping and tanks. Additionally, friable asbestos that has fallen off the piping and tankage has accumulated in random piles on the ground.

The Contractor shall submit a work plan prior to initiating work to fully inform the Navy of the procedures planned for removal of the ACM.

Existing tank sizes are as follows:

<u>Tank Description</u>	<u>No. of Tanks</u>	<u>Diameter, Height,</u> <u>ft.      ft.</u>
Zeolite Softners	3	6      8
Filters	3	7.5      7
Washwater Storage	1	10      22
Hot Process Softner	1	13      33

Tanks noted above are insulated with approximately 2 - 3 inches of ACM.

Estimates of insulated piping sizes and lengths are as follows:

Estimated Pipe size, <u>inches</u>	Estimated Total Piping Lengths, <u>feet</u>
2	130
4	170
6	700
8	50
12	30

The area supporting the tankage and piping is approximately 40 feet by 60 feet. ACM lagging and other material was noted throughout the area.

An additional piping segment is located outside of the fenced area on the southeast side of the building. This pipe runs from an underground pipe chase up along the side of the building to the roof. The segment of pipe from the pipe chase to the top, and including the top of the building, shall be removed and disposed with the material from the water treatment area. The pipe diameter is estimated at 4 inches and the length is approximately 60 feet.

All asbestos within the fenced area and the segment of insulated pipe on the southeast corner of the building is to be removed. Piping may be sectioned by bagging, allowing removal of the entire assembly including pipe segment and asbestos insulation. Alternatively, the piping and tankage insulation may be stripped from the tanks, bagged, and disposed. Both piping and tankage, if elected by the Contractor, may remain at the site after removal and disposal of the asbestos insulation. Piping and tankage remaining at the site shall be, if removed from their existing

location during the asbestos removal work, stacked in an orderly fashion in an area designated by the EIC.

Since some of the tanks are tall and the area is outdoors, and subject to winds blowing from primarily the west, extreme care shall be taken to protect workers from physical injuries due to the elements. Additionally, strict adherence shall be maintained to wetting the work area, as per these specifications and referenced regulations, to protect the immediate area and areas downwind from the work area from asbestos contamination.



## SECTION 4

### WORK AREA PREPARATION

#### 4.1 Identification of Work Areas

Areas where ACM is known are shown on Figures 3-1 through 3-6. The ACM areas, where appropriate, have been staked in the field. As part of this task, construction stakes will be placed at assumed corners of the work area to delineate the site. Where decontamination facilities are suggested or required as specified in Table 3-1, a portable construction fence will be erected between the corners to form the work area boundary.

#### 4.2 Decontamination Facilities

- A. Decontamination facilities will be located at each designated work area as specified in Table 3-1. The decontamination facilities shall include a Decontamination System for workers and visitors and a Decontamination Enclosure System for loading of asbestos into trucks for transportation to the landfill. Appendix A is a sketch of a typical work area that depicts the relationships between a decontamination system and other components of the work area.
- B. The Decontamination Enclosure System for workers and visitors shall consist of three rooms that serve as three air locks as follows: Clean Room at entrance followed by a Shower Room followed by an Equipment Room leading to the Work Area.

- C. The Decontamination System for loading of asbestos onto trucks shall consist of a contaminated staging area leading onto the Drum Wash and Wipe area, followed by another clean staging area for loading drums onto the truck.
- D. An Air Lock is a system permitting ingress and egress without permitting air movement. An air lock system will be constructed around the shower area in the decontamination facility. Each curtained doorway shall be constructed by placing three overlapping sheets of plastic over a framed doorway, securing each along the top of the doorway. The first and third sheet shall be secured on one side of the doorway and the middle sheet shall be secured on the other side of the doorway. Air locks will be provided both into and out of the shower room.
- E. Provide lockers for storage of worker's street clothes of in the clean room. Provide in the same room uncontaminated disposable protective clothing and equipment. This room shall be used by workers and visitors to change from street clothes to disposable protective clothing and gear prior to entering into the contaminated area and to dress into street clothing after they have showered and dried in the shower room as they exit from the contaminated area.
- F. Provide showering facilities with hot and cold water so arranged as to provide complete showering of workers and visitors as they exit from the contaminated area. The shower stall shall be curbed to contain water and drained to a holding tank or sanitary sewer.

- G. Provide storage in the Equipment Room for contaminated clothing and equipment. In this room workers and visitors dispose of their protective clothing except the respirator as they prepare to enter the shower room.
- H. The Drum Wash and Wipe Area shall be equipped with facilities to wash and wipe the outside of drums prior to the loading onto the trucks for transportation to a landfill. All rinsate from this area will be drained to a holding tank or sanitary sewer.
- I. The Clean Drum Staging Area is relatively clean since most of the contamination outside of the drum has been washed and wiped thoroughly in the Drum Wash and Wipe Area.
- J. Provide adequate portable toilet facilities at the job site. Workers must go through the decontamination process every time they need to use the bathroom.
- K. Provide heating and ventilation in the entire Decontamination System so that air flow will be from the outside towards the workspace. Ventilation of the decontamination facility will be provided by an exhaust fan coupled to a High-Efficiency Particulate Air (HEPA) filter in the dirty room of the facility.
- L. The decontamination facilities will be self contained and provided with integral utilities. Water will be supplied by a tank truck where local connections are not available. Wastewater from shower facilities and the drum wash and wipe area will be collected in a separate waste tank for disposal at a local Public Owned Treatment Works (POTW).

#### 4.3 Required Signs, Posters and Publications

- A. "DANGER - ASBESTOS, CANCER AND LUNG DISEASE, HAZARD, AUTHORIZED PERSONNEL ONLY, RESPERATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA" signs will be posted along the perimeter of each work area to prevent persons from entering an area where asbestos contamination may be present.
- B. U.S. Department of Labor-OSHA poster Number 3038 will be posted in the clean side of the decontamination trailer in a place where it will be clearly visible to workmen each day. The poster details the detrimental effects of airborne asbestos fibers on human health and emphasizes the importance of respirators and protective clothing.
- C. A copy of the U.S. Environmental Protection Agency Regulations for Asbestos (Code of Federal Regulations Title 40, Part 61, Subparts A and M) and a copy of U.S. Department of Labor-OSHA Asbestos Regulations (Code of Federal Regulations Title 29, Part 1910) shall be kept on-site at all times.
- D. A list of all scheduled air sampling to be done each day will be posted. This list will include the type of sample to be taken, the approximate time it will be taken, and the total amount of air which is to be taken through the filter cassettes.
- E. A list of the results of all air samples will be posted daily and recorded in the project's daily log file. This list will show the number of the test, the amount of air sampled, the type of pump employed and the laboratory

findings stated as the average of fibers per cubic centimeter of air.

- F. A list of phone numbers for the local hospital and/or emergency squad, the local police department, the local fire department, the site's security office, and the EIC shall be posted.

#### 4.4 Site Access and Safety

- A. Each work area requiring a decontamination facility will be fenced prior to initiating work and appropriate signs will be posted. Ingress and egress will be controlled via the decontamination facility. Only properly protected workers and authorized visitors will be allowed into the work area.
- B. Local medical emergency personnel, including both ambulance crews and hospital emergency room staff, shall be notified prior to commencement of abatement operations as to the possibility of having to handle contaminated or injured workmen, and shall be advised on safe decontamination procedures.
- C. The Contractor shall be prepared to administer first aid to injured personnel after decontamination. Seriously injured personnel shall be treated immediately or evacuated without delay for decontamination. When an injury occurs the Contractor shall stop work and implement fiber reduction techniques (e.g., water spraying) until the injured person has been removed from the work area.

## SECTION 5

### PERSONAL PROTECTIVE MEASURES

#### 5.1 Worker Qualifications & Health & Safety Plans

The asbestos abatement contractor shall be fully licensed by the State Contractor's Licensing Board. Proof of this license will be required prior to implementing work on this project. All personnel involved with asbestos abatement work must be trained and tested prior to any work and shall be thoroughly familiar with the standard operating procedures for abatement work.

All personnel shall undergo the medical examinations required by OSHA. The medical examination shall include as a minimum chest x-rays, and forced vital capacity and forced expiratory volume of the lungs. Proof of the employees' ability to wear a respirator shall be provided.

There shall be a sufficient number of trained and qualified workers, foremen, and superintendents to accomplish the work within the required schedule. No untrained nor unqualified persons shall be employed to speed up completion of the abatement work.

A Health & Safety Plan prepared by the Contractor shall be submitted to the Navy's Engineer-in-Charge (EIC) prior to initiating work.

#### 5.2 Personal Protective Equipment

Upon proof by the contractor that employees' exposure to asbestos does not exceed levels outlined in OSHA 29 CRF

1910.1001(d)(2), minimum respiratory protection shall consist of a half mask air purifying respirator with approved high efficiency filter cartridges. Disposable respirators are not acceptable. There shall be a sufficient quantity of disposable respirator filters, so that workers can change filters during the workday. Filters shall not be used any longer than one workday. Store the respirator filters at the job site in the change room, and protect them from exposure to asbestos prior to their use.

- A. All respirators used must be certified by NIOSH and a respirator program, as specified in 29 CFR 1910.134, shall be established. Respiratory protection provided must be consistent with exposures outlined in 29 CFR 1910.1001(g)(2).
- B. Written documentation shall be provided that employees have had instruction on the dangers of asbestos exposure, respirator use, decontamination and OSHA regulations within three months prior to assignment to asbestos related work.
- C. Written documentation that all employees have passed respirator fit tests and have been assigned individual respirators which fit them must be provided.
- D. Workers shall wear disposable full-body coveralls, head covers, and disposable or nondisposable footwear in the work area. If nondisposable footwear is to be used by the workers, then leave the nondisposable footwear in the work area at all times, package the nondisposable footwear between workareas, and dispose of them when the asbestos project is completed. Socks and undergarments

worn by workers during asbestos removal must also be disposed.

### 5.3 Decontamination Procedures

A. All workers without exception shall:

1. Remove street clothes in the clean change room and put on the disposable coveralls, head covers and respirator before entering the work area. Separate lockers for street clothing and work clothes shall be provided.
2. Remove the disposable coveralls, head covers and footwear in the work area before leaving the work area. Other work clothing shall be stored in work clothing lockers in the mobile decontamination trailer.

B. Workers shall not eat, drink, smoke, chew gum, or chew tobacco in the work area. To eat, drink, or smoke, workers shall remove the disposable work clothes and footwear before leaving the work area. Still wearing their respirator, workers shall proceed to the showers and remove their respirator while showering with soap and water. Workers shall shower in this manner as a minimum before lunch and at the end of each day's work. Workers shall then dress into a new, clean disposable coverall to eat, smoke or drink. The new coverall can be worn to re-enter the work area.

C. Contractor shall provide a respirator and disposable coveralls, head cover, and footwear to any official representative who inspects the job site.



- D. All persons entering the work area shall wear an approved respirator and disposable coveralls, head cover and footwear.

#### 5.4 Air Sampling

##### A. Ambient Air Monitoring

Continuous air sampling of the work area and the exterior perimeter of the work area shall be conducted during the removal effort.

A minimum of two air monitor samples shall be taken daily in the asbestos removal work area, and a minimum of two air monitor samples shall be taken daily within 50 feet of the outside of the work area. One work area sample can be taken in the equipment (dirty room) of the decontamination facility. One additional air monitor sample will be taken on the clean side of the decontamination facility.

All air monitor samples shall be recorded daily on a continuous log with the test results recorded as soon as they are received from the testing laboratory. Testing method for fibercount shall be in accordance with OSHA 29 CFR 1910.1001(6).

Work area air samples and air monitoring in the decontamination facility will be based on a minimum air volume of 480 liters.

Ambient air monitoring samples outside the work area will be based on a minimum air volume of 2,400 liters collected over a maximum eight hour worker shift. All equipment

shall be calibrated before and after sampling and a record kept for the project.

If air sampling data from ambient air monitoring outside the work area indicates a total fiber count greater than 0.1 f/cc of air calculated as an 8-hour time weighted average, the project will be halted as per the procedures described in Section 6.11 until additional control measures are instituted.

B. Personal Air Monitoring

Personal air monitoring will be conducted on a daily basis in each work area. At least one worker will be equipped with a portable, personal sample pump, and a minimum 480 liter air sample taken for each work area. Proper calibration of the instrument and documentation of the air sampling shall be done.

C. Calibration/Documentation/Analysis

Air sampling pumps will be calibrated on a daily basis using a calibration device such as a rotometer and at least once per month using a primary device, such as a bubble tube. Results of all calibration tests will be included in the final report.

Laboratory results of asbestos fiber counts will be reported within 24 hours and the results immediately calculated to determine the total fiber count per cubic centimeter of air sampled. Results of all sampling data will be posted at the work area and retained as part of the project documentation.

## SECTION 6

### REMOVAL PROCEDURES FOR ACM

#### 6.1 Wetting of ACM

All ACM removed under this plan except ACM described in Section 6.2 will be done in a wet state. Enough water will be supplied via on-site pumps and tanks so that the work area can be maintained in a wet state throughout the cleanup. Hoses and sprinklers will be used to maintain the desired degree of moisture in each work area.

#### 6.2 Removal of ACM Items and Equipment

Large pieces of ACM (greater than two inches in diameter) that are non-friable (such as building siding material) will be collected and placed in plastic bags. This material is classified as non-hazardous by California DHS and can be disposed of as solid waste.

Smaller pieces of non-friable ACM (less than two inches in diameter) can also be raked into piles, placed in plastic bags and disposed as solid waste.

Friable ACM materials (pipe lagging, cloth, insulation) shall be wetted and placed in 6-mil plastic bags.

Pieces too large or heavy for plastic bags will be wrapped in 6-mil plastic and sealed with duct tape for off-site disposal. All bags of ACM (both friable and non-friable) will be water rinsed prior to removal from the work area.

### 6.3 Removal and Stockpiling of Dirt

In ACM areas where soil will be removed, the following procedure shall be used. After the large ACM items are collected and removed from the work area, the area will be thoroughly wetted over several hours by sprinkling. Once the area is completely wetted, two-inch layers of surface soil will be removed from the work area and stockpiled for loading into suitable plastic-lined 55 gallon steel drums. The soil will be sampled in accordance with Section 7 after each two-inch layer of soil is removed to verify background levels have been obtained.

Removal of ACM contaminated soil can be done using mechanical equipment or hand shoveling, depending on the size of the work area and depth of contamination. Stockpiled dirt shall be covered with plastic to preserve the moisture content and prevent the runoff of contaminants to outside the work area.

### 6.4 Packaging

Friable ACM items and equipment will be packaged in 6-mil plastic bags and placed in 55 gallon drums or bins and sealed. Large objects placed or covered in plastic shall be double covered to minimize damage due to punctures and place in enclosed vehicle for transport to the disposal site.

### 6.5 Decontamination of Packaged Material

Once bags are ready for removal from the work area, they will be carried to the decontamination area. One man will be on the contaminated side and will hand the bags to a man in the shower area. This man will thoroughly wash the outside of the bag to remove any materials that may be on the bag. This man will then

place another 6-mil bag on the outside of the bag that was just washed for extra protection and strength. The man inside the shower will then give the bag to a man on the uncontaminated side and he will carry the bag to the van type vehicle. This material will then be transported to the disposal site.

Drums will be placed from the contaminated area onto the drum wash pad using a fork lift operating in the work area. After decontamination, a fork lift operating outside the work area will place the drum in a stockpile or onto the transport vehicle.

#### 6.6 Package Labeling

Each drum of ACM material or soil must be properly labeled to meet OSHA and DHS hazardous waste regulations. Labeling refers to the placement of a DOT-specified graphic symbol(s) on a package to identify the general hazard of the materials it contains. Labels are specified in the DOT Hazardous Materials Table (49 CFR 172.101) and EPA Regulations 40 CFR 61.152 (b)(1)(IV).

Initial labeling is the responsibility of the generator. The shipper must replace any labels which are lost or destroyed during shipment. The DOT labels are diamond shaped, 4 x 4 inches in size.

The labels should be placed on the surface of the package, near the marked proper shipping name. The background should be a contrasting color and the labels placed so as to be unobstructed by other markings or attachments.

## 6.7 Vehicle Loading and Transportation

Properly sealed, decontaminated, and labeled drums will be loaded into enclosed van type trailers for transport and disposal at the designated landfill. Loading shall be done using fork lifts or other equipment. Loading personnel shall wear respiratory protection while inside the van.

Licensed hazardous waste haulers must be used to transport friable ACM. Placards must be placed on the motor vehicles in order to identify the hazard or the materials contained. Only DOT specification placards may be used. It is the generator's responsibility to provide the placards. Should the transporter provide the placarding, the generator should make sure that the identification numbers and placards on the truck agree with the description on the manifest.

## 6.8 Manifesting

Each load of ACM must be properly manifested from the site of generation to the landfill disposal site. A separate manifest is required for each truck carrying the waste. For each shipment of ACM, two copies of the manifest should be retained with the hazardous waste records: one when the waste is shipped off-site and one signed by the TSD acknowledging receipt of the shipment.

A California manifest will be used and will include the following information:

- Generator identification number
- Generator's name, address and phone number
- Transporters name and identification number

- Disposal facility's name, address and identification number
- DOT description of waste, types and number of containers, total quantity, weight
- Certification, signature and date

#### 6.9 Disposal of Waste Materials

All friable ACM must be disposed in a California Class I or II landfill authorized to receive asbestos material. Any special handling requirements of the landfill must also be met. Waste materials must be deposited in the landfill so that containers are not punctured or broken. Designated areas and daily volume limits may apply to the landfill. Written acceptance of the materials is required from the landfill.

#### 6.10 Decontamination of Equipment

All disposable equipment used in the work area, including personal protective equipment, will be considered friable ACM and will be suitably disposed. Tools, mechanical excavators, HEPA filtering equipment, etc. must be decontaminated prior to removal from the work area. This equipment will be decontaminated using a pressure water spray over the entire unit, including interiors. Runoff from the spray wash will be collected for disposal at a local POTW.

The decontamination facility (trailer) will be similarly cleaned prior to removal from the work area. Both the interior and exterior will be pressure sprayed and rinse water collected for disposal.

#### 6.11 Stop Work Procedures

If the Engineer-in-Charge (EIC) decides that the removal or renovation operations are violating the requirements of this document, pertinent regulations, or endangering workers, Navy personnel, or visitors, then immediate notifications will be given by the EIC in writing to the asbestos abatement Contractor that operations shall cease until corrective action has been taken.

Removal work shall be halted immediately whenever personal monitoring samples indicate exposures in excess of OSHA standards or air monitoring outside the work area exceeds 0.1 f/cc as specified in Section 5.4 A. Work shall resume only when there is adequate assurance that the cause or source of the excessive exposure has been identified and corrected. Authorization to continue work shall be given in writing by the EIC.

#### 6.12 Integration With Verification Plan

Removal of ACM soil will continue until the background concentration of asbestos is achieved or a decision is made to cap and cover the work area. During the verification stage, removal of additional quantities of ACM soil may be required and all procedures described in this section must be followed.



## SECTION 7

### VERIFICATION PLAN

#### 7.1 Determination of Background Level

A minimum of four random bulk samples shall be collected from the top two inches of soil in each work area prior to initiating removal work and analyzed for percent asbestos to determine existing conditions. In the RI/FS areas the sampling will identify the extent of the surface contamination requiring capping. This work area background level will be compared to the site background level previously determined.

#### 7.2 Verification Procedures

After all ACM materials and soil, as appropriate, has been removed from the work area as listed in Section 3, a detailed, physical inspection of the cleaned work area will be made by the Navy or the Navy's designated inspector. Obvious pieces of asbestos material or suspect material missed during the cleanup will be identified for subsequent removal prior to verification sampling.

Upon completion of the ACM removal or ACM contaminated soil removal, the work area will be divided into discrete grid sections. A minimum of six random surface samples will be collected and composited from each grid and analyzed for percent asbestos content in accordance with 29 CFR 1910.1001(6). If laboratory analyses of the soil samples exceed the site background level for each grid, an additional two inches of soil will be removed from each grid. The samples with asbestos concentrations equal to or less than background levels will

be declared acceptable.

For those samples within grids that test above background levels, the grid will be subdivided into smaller discrete areas and surface samples collected and composited from each sub-grid. Analysis and additional excavation will proceed as described above until background levels are achieved.

During the verification sampling, all personnel in the work area will utilize protective equipment and will follow the decontamination procedures described in Section 4. Additional removal work done during the verification phase will follow the procedures described in Sections 5 & 6.

## SECTION 8

### CAPPING MATERIAL

Upon completion of the removal of ACM material and soil, the work areas, as appropriate will be capped with clean soil, leveled and graded. The source of the backfill may be either Cal Trans Class II aggregate, top soil free of debris, or other material acceptable to the EIC. A minimum of one composite sample per work area shall be analyzed for asbestos content to assure that the soil is clean. The material shall be certified free of hazardous materials/waste.

The backfill material shall also be used in work areas designated to be capped. Minimum depth of capped areas shall be 12 inches. The capped area shall extend two feet in aerial extend beyond identified asbestos area. During capping operation the existing soil and surrounding areas shall be kept in a wetted state to minimize dust and potential for airborne asbestos.

For both backfilling and capping, the material shall be placed in six inch lifts and mechanically compacted. The goal is to achieve sufficient density (85% ASTM D 1557) such that future settlement is minimized. Edges of capped material shall be sloped and compacted to minimize erosion due to winds and rains.

## SECTION 9

### COST ESTIMATE

Table 9-1 summarizes the cost estimate for cleanup of ACM material at the Hunters Point Annex. The cost estimate is based on cleanup to a background level of less than one percent asbestos and assumes the material volumes shown in Table 3-1.

Cleanup at the Power Building, Site 10, is assumed to take 8 weeks (40 days). Time for cleanup of all other sites is assume to require three additional weeks.

Cleanup costs are estimated at \$300,000.

Table 9-1

## ACM Cost Estimate

Power Building (40 working days, 60 yards of ACM)

Labor @ \$2,500/day (5-man crew) * 40 days .....	\$100,000
Decon trailer @ \$500/day * 40 days.....	\$ 20,000
Equipment/Scaffolding @ \$200/day * 40 days ...	\$ 8,000
Landfill Disposal \$150/cu yd * 60 cu yd .....	\$ 9,000
Monitoring/analytical - allow.....	\$ 10,000

Subtotal Power Building	\$147,000
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Other Sites (15 working days, 90 yards of ACM)

Labor @ \$2,000/day (4-man crew) * 15 days .....	\$ 30,000
Decon trailer (Site E) @ \$500/day * 6 days....	\$ 3,000
Fencing (Site E) 600 ft @ \$10/ft .....	\$ 6,000
Landfill Disposal \$150/cu yd * 90 cu yd .....	\$ 14,000
Fill Material 90 yds * \$50/yard .....	\$ 5,000
Monitoring/analytical - allow.....	\$ 10,000

Subtotal Other Sites	\$ 68,000
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Mobilization and Demobilization .....	\$ 10,000
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Subtotal ACM Cleanup	\$225,000
Contingency @ 30%	\$ 68,000

Total Estimate for ACM Cleanup	\$293,000
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## SECTION 10

### SCHEDULE

As noted in Section 9, the assumed time period for work on the ACM sites is on the order of 11 weeks. Following is a listing of the tasks and estimated durations. In scheduling the specific ACM work areas, it is suggested that the work areas outside the power building (site 10) be worked first since these ACM areas pose a greater hazard to the general public than the power building area.

<u>Task Element</u>	<u>Estimated Duration, Weeks</u>
Approve Workplan	2
Agency review	3
Contract Bid	4
Contract Administration/selection of Contractor	4
Notify required agencies of starting date (20 days advanced notice)	3
Contractor begins work	
Mobilization	1
Work other sites	3
Power Building	8
Demobilization	1
	<hr/>
TOTAL	29 Weeks

## SECTION 11

### REPORT/DOCUMENTATION

The Navy or its designated contractor will prepare a final report documenting the asbestos removal work. This report will contain at a minimum the following information:

- A. An accurate log and record covering every aspect of the air testing procedures throughout every phase of the cleanup;
- B. Results of bulk sample tests with laboratory analysis results and final inspections showing that each work area is free of asbestos at the end of the project;
- C. A list of personnel who are on the job and copies of all related personnel medical records;
- D. Copies of required notifications to local, state and federal agencies;
- E. Copies of OSHA "injury-illness" records, (form 101);
- F. A daily log of all significant events which occur inside or outside of the immediate vicinity of the work zone;
- G. Copies of inspections by the Navy or its designated contractor or inspector;
- H. Copies of signed and returned manifest forms confirming that the asbestos has been disposed in a licensed landfill.
- I. Photos or videotapes of work conducted at the site.

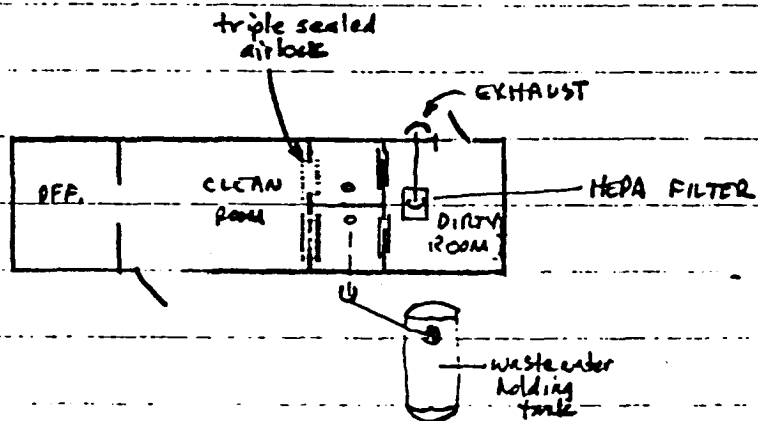
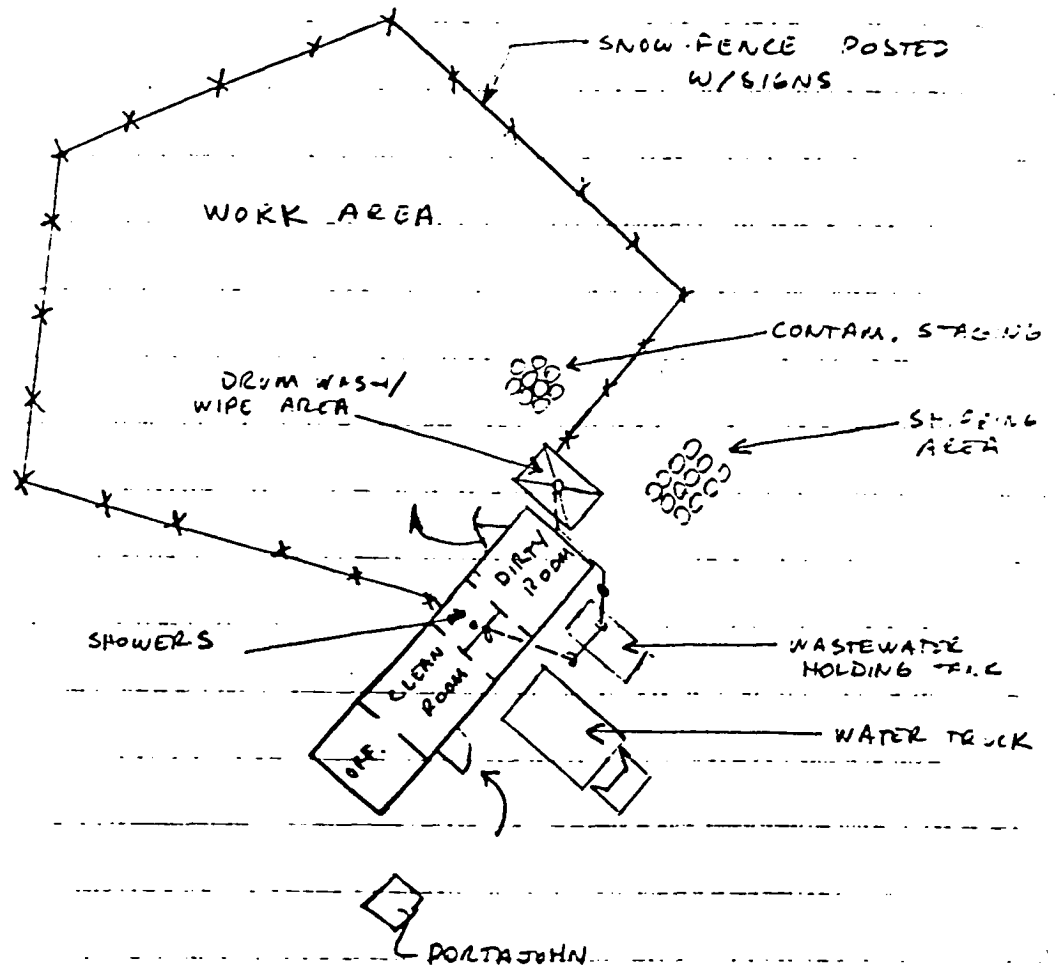
Representative forms for project monitoring and control are contained in Appendix B.

APPENDIX A

TYPICAL WORK AREA SKETCH



# SKETCH OF WORK AREA



## APPENDIX B

### Documentation Forms

This appendix includes sample log and data sheets which will be used to monitor and control this project.

- o Foreman's Daily Report
- o Supervisor's Weekly Report
- o Monthly Respirator Report Form
- o Pre-removal Bulk Sampling Form
- o Post-removal Bulk Sampling Form
- o Air Sampling Data Sheet
- o Daily Procedures List

A daily log in a bound notebook which lists all activities and events which occurred on the day will also be maintained. All employees, visitors and other persons who entered the work area will be recorded. The book will become part of the project files at the conclusion of the work.

# FOREMAN'S DAILY REPORT

Please give a detailed report completed today. How much visqueen put up, square feet of asbestos removed and cleaned up, etc.

[illegible]

NAMES OF MEN ON JOB

## PERFORMANCE TODAY

GOOD FAIR POOR

1. \_\_\_\_\_

( )      ( )      ( )

2. \_\_\_\_\_

( ) ( ) ( )

3.

( )      ( )      ( )

4.

( )      ( )      ( )

5. \_\_\_\_\_

( )      ( )      ( )

6.

( )      ( )      ( )

7.

( ) ( ) ( )

8. . . . .

( ) ( ) ( )

9.

( ) ( )<sup>-</sup> ( )

10.

( ) ( ) ( )

11.

( ) ( ) ( )

12.

( ) ( ) ( )

13. . . . .

( ) ( ) ( )

14.

( ) ( ) ( )

15.

( ) ( ) ( )



## LATC

[illegible]

Taken By:

PRE-REMOVAL BULK SAMPLING

[illegible]

**Taken By:**

[illegible]

Date:

Location:

Sample:

Taken By:

AIR SAMPLING DATA SHEET

SAMPLING TO BE CONDUCTED (Description)	TIME TO BE TAKEN	VOLUME OF SAMPLE

SAMPLING DATA						LABORATORY RESULTS		
SAMPLE NUMBER	LOCATION OF SAMPLE	PUMP NUMBER	TIME TAKEN	VOLUME OF SAMPLE	CALIBRATION (Y/N)	LAB SAMPLE NUMBER	SUBSTANCE	RESULTS/AMOUNTS



# DAILY PROCEDURES LIST

Week No. \_\_\_\_\_

ACTIVITY DESCRIPTION	FREQUENCY	M	T	W	T	F
(1) Record test results from lab for previous day's sample	DAILY					
(2) Post test results	DAILY					
(3) Calibrate air sampling equipment and start samplers	DAILY					
(4) Take two (2) air monitoring samples (840 liters of air) from work area, noting location.	DAILY					
(5) Take one (1) air monitoring sample from adjacent occupied area.	DAILY					
(6) Take one (1) air sample from outside work area.	DAILY					
(7) Record observations on removal procedure	DAILY					
(8) Keep list of visitors inside work area.	DAILY					
(9) Prepare all samples for shipping to lab	DAILY					
(10) Record all samples on continuous log, along with test results.	DAILY					
(11) Submit test results, sampling data, and removal notes to Contracting Officer and Asbestos Removal Contractor.	DAILY					
(12) Perform personal sampling on two (2) employees from each job category.	DAILY					

